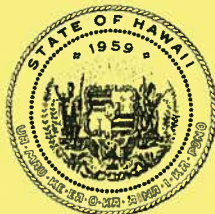


DAVID Y. IGE
GOVERNOR OF HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

OFFICE OF CONSERVATION AND COASTAL LANDS

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

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LAND
STATE PARKS

ref:OCCL:MC

Loko I'a HA-15-06

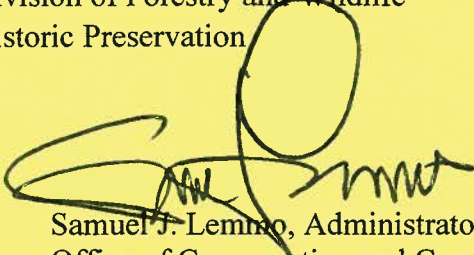
MEMORANDUM:

DEC 29 2015

To: DLNR

- ___ Land Division
- ___ Division of Aquatic Resources
- ___ Division of Forestry and Wildlife
- ___ Historic Preservation

- ___ Office of Hawaiian Affairs
- ___ Kua'āina Ulu 'Auamo
- ___ Hawai'i Planning Department
- ___ U.S. Army Corps of Engineers
- ___ NOAA Fisheries, Pacific Islands
Regional Office
- ___ Department of Health, Environmental
Planning Office

FROM:  Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

SUBJECT: REQUEST FOR COMMENTS
Pond Restoration

LOCATION: Kekaha Kai State Park, North Kona, Hawai'i

TMK: (3) 7-2-005:003 7-2-004:019

Please find Loko I'a Restoration Application HA-15-06 for proposed restoration work on three anchialine ponds at Kekaha State Park on the above subject parcels.

The largest pond is located just inside of the coastal dune. It was partially lined with rock walls and managed as a fishpond by indigenous Hawaiians, although it lacks some of the 'classic' loko i'a elements such as mākaha and 'auwai. A smaller pond is located 100 feet inland from the first, while a third lies in a different section of the park and is bounded by the sandy coast and a lava flow.

All three ponds were damaged during the 2011 tsunami, which deposited large amounts of sand in the ponds. In addition, the ecosystems have been degraded by invasive plants and predatory fish, as well as algae and bacteria build-up.

The restoration work will involve completing a baseline survey of the ponds by a Division of Aquatic Resources staff, removal of invasive fish from the pond using nets, the introduction of a

single pāpio (a younger ulua) into each pond as a predator of the invasive guppies, hand removal of invasive plants from the ponds, and the mechanical removal of sedimentation.

An excavator will be used to remove the large amount of sand that is covering the rock wall on the first pond; after this Park volunteers will remove the sand by hand and by using a trash pump.

Once the restoration work is completed the lands surrounding the ponds will be planted with native plant species. The ponds will be monitored to assess the return of 'ōpae'ula and other anchialine species.

No stocking or harvesting is currently planned.

We have included the application. We would appreciate any comments your agency or office has on the proposed project and its associated best management practices. The documents can also be found on our website at dlnr.hawaii.gov/occl/hoala-loko-ia.

Please let us know by Thursday January 14 if we should be expecting comments from your agency. Contact Michael Cain at 587-0048, should you have any questions on this matter.

☐ Comments Attached

☐ No Comments

Signature

Attachment: *Loko I'a application HA-15-06*

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

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JEFFREY T. PEARSON
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KABOOLAWA ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Date: January 4, 2016
DAR # 5222

MEMORANDUM

TO: Bruce S. Anderson, DAR Administrator *BSA*
DATE: January 14, 2016
FROM: Troy Sakihara, Aquatic Biologist *TS*
SUBJECT: Environmental Assessment for the Ho'ala Loko I'a Application,
Kekaha Kai Anchialine Pools

Comment	Date Request	Receipt	Referral	Due Date
	December 29, 2015	December 30, 2015	January 4, 2016	January 14, 2016

Requested by: Dena Sedar, Interpretive Program Specialist
Hawaii Division of State Parks, Department of Land and Natural Resources

Summary of Proposed Project:

Title: Ho'ala Loko I'a Application, Kekaha Kai Anchialine Pools

Project by: State Parks Division, DLNR

Location: Kekaha Kai State Park, County of Hawaii

Brief Description: This is an application to conduct concerted restoration work (i.e., invasive species removal, sand/sediment removal and outplanting of native riparian flora) in three anchialine pool habitats located in Kekaha Kai State Park. These pools were damaged by the 2011 Japan Tsunami and are currently degraded by invasive fishes (poeciliids) and non-native vegetation. The intent is to restore natural conditions in these pools to allow the reestablishment of endemic 'ōpae 'ula *Halocaridina rubra* populations.

Comments: We request that a further detailed bio-control management plan is provided within the application, which should include explanations on the use of juvenile carangids (papia) as a bio-control agent for poeciliids (e.g., mosquitofish), and fish removal efforts using nets. In particular, the bio-control management plan should specify:

- 1) Species and approximate sizes of papia that will be introduced

- 2) If each pool will receive only one papio despite the notable differences in pool size
- 3) Approximate duration that papio are to be left in the pools (no. of days/weeks/months or indefinitely)
- 4) Further detailed procedures for removing poeciliids using nets
- 5) Monitoring frequency of the pools by State Parks staff after removal/control efforts

Please consider the following when addressing listed inquiries above:

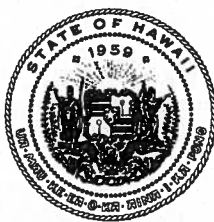
It is important to note that the use of bio-control agents is typically ineffective for eradication efforts, but is rather used for reducing and controlling populations of invasive species. It seems that the proposed application here is for complete removal of invasive fish, which would not make the introduction of a single bio-control agent suitable for this purpose. Introducing a native fish predator may only alter the behavior of poeciliids and minimally reduce its population. However, minimizing invasive fish populations or altering their behavior in these pools may allow 'ōpae 'ula to reestablish, albeit in relatively smaller numbers. 'Ōpae 'ula have also shown to appear at night when invasive fish are inactive in invaded pools. That being said, although eradicating invasive fishes is preferred, minimizing and controlling the invasive fish population may have significant benefits too.

We would also like to stress that the eradication of invasive fishes in anchialine habitats, particularly poeciliids, is extremely difficult under the limitations of approved methods. Physical removal with nets must be a long-term and frequently repeated activity in order for it to be effective, which may take longer than a few months. To maximize the effectiveness of this effort, we suggest planning fish removal with nets at night when these fish are inactive.

Considering that poeciliids may be reintroduced or not completely eradicated, and that State Parks staff plan to monitor these pools for invasive fishes and subsequent removal, the replanting of native plants along the wetted edge of the pools may hinder these efforts and provide more refuge for these fish. Therefore, the applicant may want to consider keeping the wetted edge of the pools free of any vegetation. 'Ōpae 'ula do not require these plants for survival. It is also important to note that many of Hawaiian anchialine pools in geologically young basaltic lava fields are naturally devoid of emergent or riparian vegetation. Keeping these pools free of vegetation could therefore be considered restored conditions. However, outplanting native vegetation above the high water mark may improve bank stability and reduce sedimentation and reestablishment of non-native flora.

Thank you for providing DAR the opportunity to review and comment on the Ho'ala Loko I'a Application. If any changes are made to the application, DAR requests the opportunity to review and comment on those changes.

DAVID Y. IGE
GOVERNOR OF HAWAII



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2016 JAN 14 A 11:46

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DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

January 8, 2016

MEMORANDUM

To: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

From: Sheri S. Mann, Acting Administrator *SSM*
DLNR, Division of Forestry and Wildlife (DOFAW)

Subject: Comments on Loko I'a Application HA-15-06 for Anchialine Pool Restoration at Kekaha Kai State Park, TMK (3) 7-2-005:003, 7-2-004:019

Thank you for the memo of December 29 and the opportunity to comment on the proposed anchialine pool restoration. The project is proposed by the DLNR State Parks Division. The restoration work being proposed is for three pools and will involve a baseline survey of the pools, removal of invasive fish using nets and possible other experimental methods such as introduction of a juvenile pāpio, hand removal of invasive plants, and hand and mechanical (including excavator) removal of sediments. All three pools were damaged during the tsunami of 2011 which deposited large amounts of sand in them, and they have been degraded by invasive plants and predatory fish as well as algae and bacteria buildup.

The locations being proposed for this work are not known to be habitat for Federal- or State-listed waterbirds, however 'Ōpae'ulu Pond, less than 2 miles from the pools being proposed for restoration, is listed as a supporting wetland in the Recovery Plan for Hawaiian Waterbirds (2nd Revision, 2011) for Hawaiian coot or `alae ke`oke`o (*Fulica alai*) and Hawaiian stilt or ae`o (*Himantopus mexicanus knudseni*). In addition, other important wetland habitat for waterbirds is present along the coast south of the proposed sites. Therefore, the proposed project could attract endangered waterbirds to the property during the project construction and maintenance period and they may be adversely affected by these activities. Consequently, if water is present in a pool on which work is being conducted, DOFAW recommends that a person capable of positively identifying these waterbird species check the site each day before starting work to ensure no birds are present. If listed birds are present, work should not proceed until the bird(s) have left the project area.

As reported in the Final Environmental Assessment for Kekaha Kai State Park Phase II Improvements (February 2015), beachgoers and park employees often see Hawaiian hoary bats

or 'Ōpe'ape'a (*Lasiurus cinereus semotus*), a Federally endangered species. If the species is present at the site, and trees are planned for removal during the bat breeding season, there is a risk of injury or mortality to juvenile bats. To minimize the potential for impacts to this species, DOFAW recommends that removal of woody plants greater than 15 feet in height should not occur between June 1 and September 15, which encompasses the bat birthing and pupping season.

Finally, we note that artificial lighting can adversely impact seabirds that may pass through the area at night causing disorientation which could result in collision with manmade artifacts or grounding of birds. Any lights used during or after project activities should be fully shielded to minimize impacts. If nighttime activity is expected, DOFAW recommends consultation on the use of seabird friendly lighting to ensure it is properly utilized and sufficiently seabird friendly. DOFAW also recommends keeping refuse generated during the project in lidded containers to prevent predators from being attracted to the area.

If you have any questions about these comments, or should the scope of the project change significantly or it becomes apparent that threatened or endangered species may be impacted, please contact Glenn Metzler, Protected Species Habitat Conservation Planning Associate, at (808) 587-4149 or glenn.m.metzler@hawaii.gov.

8 February 2016

FROM: Bobby Camara
PO Box 485, Volcano HI 96785
(808) 967-7787 maniniowali @ gmail.com

TO: Michael Cain, State of Hawaii DLNR, OCCL

RE: Hoala Lokoia Application HA-15-06, Kekaha Kai Anchialine Pools

I retired from Hawaii Volcanoes National Park (HAVO) in 2013, and have expertise in natural sciences and the cultural history of Hawaii. I first visited what is now Kekaha Kai State Park (KKSP) in 1972, and since then have spent hundreds of days at Maniniowali, mostly from 1975 when Queen Kaahumanu Highway opened, to the early 1990's. While working at HAVO I spent thousands of hours observing lava flows in the coastal section of the park, and gained a good understanding of flow dynamics and processes.

I will be commenting on the three ponds in KKSP that are the subject of the Application. It's my understanding that work done under any Hoala Lokoia Permit only applies to ponds altered by people, and not to natural anchialine pools.

Ponds 1 and 2 are in the ili of Kaelehuluhulu in the Mahaiula section of KKSP.

I recently made two field trips to that area. The first was on January 29, 2016 with State Parks staff Dena Sedar, Martha Yent and Tracy Tam Sing, and the second on February 4, 2016 with Sedar and Tam Sing. Among topics discussed, we examined the lava flows and visited the fishponds and anchialine pools in question.

My assessment of the ponds is based on personal knowledge of the history, character, and morphology of lava flows in the region; personal knowledge of, and field work in archeology in the area; consultations with Jim Kauahikaua of USGS Hawaiian Volcano Observatory; information contained in documents such as the 1974 "Aquatic Survey of Kona Coast Ponds, Hawaii Island" by Maciolek and Brock; the 1998 report "Kekaha Wai Ole o na Kona" by Maly [HiKe-10 (030498)]; Appendices A-L of KKSP Park Development Report and DEIS prepared in December 2002; and DAGS State Survey Office Registered Maps.

The flows underlying Kaelehuluhulu all appear to date from 1801. The relative age of the lava underlying Pond 1 can only be determined by excavating the sand and examining the substrate. But it appears that Pond 1 is a low spot in the 1801 flows that has been mostly filled with sand during tsunami or high surf events. It's possible but not likely that Pond 1 is a kipuka of old lava in the midst of the 1801 flow. The mortared stonewall surrounding Pond 1 likely dates from the 1970's. Coastal subsidence in the area since 1801 has amounted to 40-50 centimeters, which could account for all or part of the water in both Ponds 1 and 2.

A statement by Mr Kaelemakule published in an article on June 12, 1928 (Maly p74) is apparently one of the earliest references to Pond 1 being a remnant of Paaiea. Reinecke in 1930, mentions a "stagnant pool" in that location. Registered Maps do not depict a "fishpond" at Kaelehuluhulu, although those maps usually include ponds if they are present.

I would characterize Pond 1 as a wetland. During the field trip, we observed kolea foraging there, and makaloa persists.

Pond 2 appears to be either a natural inflation pit or a subsidence pit. In either case it is wholly in the 1801 flow and appears to be unaltered by people. There is no indication that Pond 2 functioned as a fishpond, and was, because of its slightly higher elevation than Pond 1, likely dry when the pit formed during the 1801 lava flow.

Pond 3 is in the ahupuaa of Maniniowali and is located ma uka of the north end of the beach on the shore of Kua Bay. I visited that fishpond on January 29, 2016 with State Parks staff Dena Sedar, Martha Yent and Tracy Tam Sing. I believe the pond functioned as a traditional fish or opaeula pond. I sketched the fishpond on January 17, 1976. See the last page of these comments. The ma kai portion of Pond 3, a 40'x80' area of stagnant mud was filled by illegal bulldozing in the summer of 1985. The rubble remains, and if this permit request is granted, the rubble should be removed as one phase of the restoration the fishpond. The rest of the fishpond, comprised of three compartments measuring 15'x15', 10'x10', and 20'x40', is today nearly entirely senescent. All dividing walls, covered with dredged sediment in earlier times, have been completely obscured by sedges and other vegetation. There is only a small area, perhaps measuring 5'x5', of open standing water.

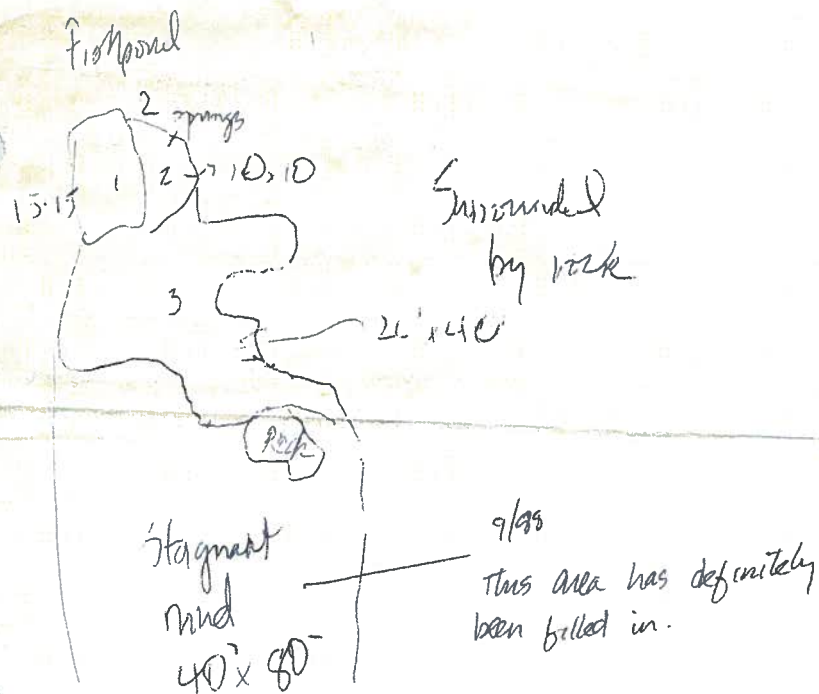
During the period from the 1970s through approximately the 1980s, I regularly observed aeo (Hawaiian stilts) visiting Pond 3, likely stopping on their way to or from ponds at Makalawena or Kukio.

Regarding Mr. Lemmo's "Request for Comments" Memorandum, I would not characterize the sedges and other vegetation in the pond as "invasive species". I would say that the area of vegetation in the pond is expanding as part of the process of pond senescence. In addition, judging from the lack of sand covering any part of the 1985 rubble fill, it doesn't appear that the 2011 tsunami inundated or damaged that pond.

I believe that Pond 3 sediments may contain valuable information, as well as artifacts. If the pond is restored, it must be done with care so as to allow the gathering of potential information in the context of archeology. Pollen cores should first be obtained and analyzed for information regarding vegetation patterns, and any sediment removed should be screened for artifacts.

Note that Brock wrote "Kekaha Kai State Park, North Kona, Hawaii, Anchialine Pool Restoration and Management Plan for the Maniniowali Ahupuaa", EAC Report No. 2004-03, January 2004. In that report, he provides recommendations concerning the process of restoring the pond complex. He is also adamant that alien fish must be successfully removed if the expectation is to have native biota, including opaeula, return to the pond.

I appreciate the opportunity to comment, and would be happy to try to answer any questions you may have.



092333 In: Reinecke Manuscript 1930, Bishop Museum

Site 110 " At the north end of Kua Beach, two pens and a platform. Inland of the beach is a pool and about it on three sides are shelters, small platforms, graves, in the a-a.

There are many graves in this a-a which is distinguished by its tremendous boulders. "

(See site notes on reverse)
a/38
m

PHONE (808) 594-1888



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560 N. NIMITZ HWY., SUITE 200
HONOLULU, HAWAII 96817

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HRD16/7721

January 14, 2016

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, HI 96809

Re: Comments on "Request for Comments: Pond Restoration, Kekaha Kai State Park, North Kona, Hawai'i" [Loko I'a HA-15-06]
Kaulana, Manini'ōwali Ahupua'a; Kona Moku; Hawai'i Moku-puni
Tax Map Key (3) 7-2-005:003, (3) 7-2-004:019

Aloha e Mr. Lemmo:

The Office of Hawaiian Affairs (OHA) received your memorandum, dated December 29, 2015, on the above-referenced project, requesting comments on the accompanying Ho'ala Loko I'a Application, HA-15-06. The project entails the restoration of three anchialine ponds located at Kekaha State Park by the Department of Land and Natural Resources, Division of State Parks (State Parks). State Parks proposes to conduct a baseline assessment of the ponds; eradicate non-native plant and fish species from the ponds; remove sediment, largely attributed to the 2011 tsunami; and plant native plant species. State Parks believes that this restoration work will result in the return of native ōpae'ula to the three anchialine ponds.

We appreciate the best management practices already proposed by State Parks for this project. Given the pond's coastal setting and proximity to a known archaeological complex of habitation sites, OHA urges State Parks to exercise the highest level of care to minimize the potential for disturbing sub-surface cultural materials. Traditional Hawaiian burial practices often occurred in inland sand deposits and therefore there is a high likelihood of encountering traditional Hawaiian burials and cultural deposits with projects such as this one. We understand that there will be no expansion of the pools' footprints and that only accumulated sediment will be removed from the pools, but we recommend that careful planning occur so that equipment does not disturb adjacent areas during the sediment removal work or during movement of the

Samuel J. Lemmo, OCCL Administrator

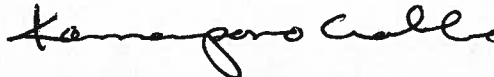
January 14, 2015

Page 2

equipment. Paths to and from the ponds should be clearly delineated and construction barriers, which include a buffer area around each site, should be erected around adjacent cultural features to minimize the potential for disturbance.

Mahalo for the opportunity to provide comments. Should you have any questions about this letter, please contact Everett Ohta, OHA Lead Compliance Specialist, at (808) 594-0231 or everetto@oha.org.

‘O wau iho nō me ka ‘oia ‘i‘o,



Kamana‘opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KC:eo

**Please address replies and similar, future correspondence to our agency:*

Dr. Kamana‘opono Crabbe

Attn: OHA Compliance Enforcement

560 N. Nimitz Hwy., Ste. 200

Honolulu, Hawai‘i 96817

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

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2016 JAN 11 A 11:13

In reply, please refer to:
File:
EPO 16-002

DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

January 4, 2016

To: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

From: Laura McIntyre, AICP 
Program Manager, Environmental Planning Office

Subject: Request for Comments (RFC)
Pond Restoration – Kekaha Kai State Park, North Kona, Hawaii
TMK: (3) 7-2-005:003 7-2-004:019

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your RFC to our office on January 4, 2016. Thank you for allowing us to review and comment on the proposed project. The RFC was routed to the District Health Office on Hawaii, and the Clean Water Branch. They will provide specific comments to you if necessary. EPO recommends that you review the standard comments and available strategies to support sustainable and healthy design provided at: <http://health.hawaii.gov/epo/landuse>. Projects are required to adhere to all applicable standard comments.

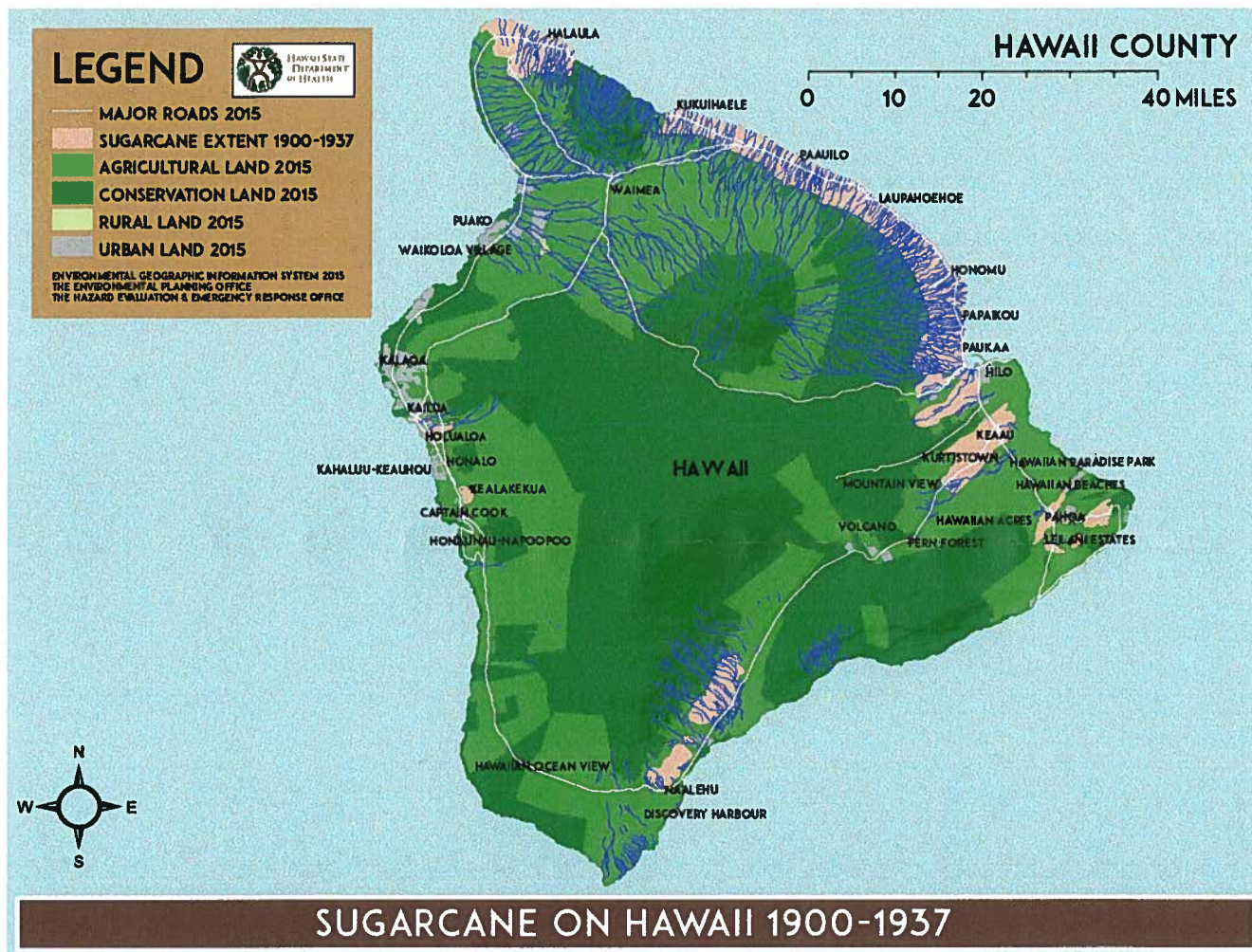
EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal. The portal provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings. The Portal is continually updated. Please visit it regularly at: <https://eha-cloud.doh.hawaii.gov>

We request that you utilize all of this information on your proposed project to increase sustainable, innovative, inspirational, transparent and healthy design.

LM:nn

Attachments: Historic Sugarcane Lands Map Viewer - <http://health.hawaii.gov/epo/egis/sugarcane>
OEQC viewer - <http://eha-web.doh.hawaii.gov/oeqc-viewer>

c: DHO Hawaii, CWB (via email only)



MAP INTENDED FOR ILLUSTRATIVE PURPOSES ONLY.

